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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,043	04/05/2002	Vincent L Chiang	066040-9675	9579

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EXAMINER

IBRAHIM, MEDINA AHMED

ART UNIT	PAPER NUMBER
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1638

DATE MAILED: 06/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/980,043	Applicant(s) CHIANG ET AL.	
	Examiner Medina A Ibrahim	Art Unit 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 167-203 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 167, 169-184, 186-193, 195 and 198-203 is/are rejected.
- 7) ☒ Claim(s) 168, 185, 194, 196 and 197 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>04-04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Applicant's response filed 05/24/04 in reply to the Office action of 11/21/03 has been entered. The IDS form 1449 of 04/02/2004 has been considered. Initialed copy of the form is attached to the instant Office action.

This Office action contains NEW GROUNDS OF REJECTIONS not necessitated by Applicant's amendments. Therefore, this action is non-final. The delay in applying these grounds of rejection is regretted.

All previous objections and rejections not set forth below have been withdrawn in view of Applicant's amendment to the claims.

Claims 1-166 have been cancelled. Claims 167-203 have been added. Therefore, claims 167-203 are pending and are examined.

Claim Objections

Claims 168, 185, 194, and 196-197 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

New Matter

Claims 172 and 201 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time

the application was filed, had possession of the claimed invention. This is a NEW MATTER rejection.

The claims recite "a polynucleotide....nucleotides 2 to 3244 of SEQ ID NO: 4". However, support for the limitation "nucleotides 2 to 3244 of SEQ ID NO: 4" cannot be found in the specification or in the claims as originally filed. The teaching at page 11, lines 7-9, of the specification is insufficient to provide support for the limitation. Therefore, the limitation is considered to be a new matter. Applicant is requested to point to support for the limitation in the originally filed specification or to delete the New Matter in response to this rejection.

Written Description

Claims 167, 169, 170-172, 173-175, 176-178, 179-180, 181-184, 186, 187, 188, 189-192, 193, 195, 198-199 and 200-203 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This rejection is repeated in-part for the reasons of record as set forth in the last Office action of 11/21/03. Applicant's arguments filed 03/25/04 have been considered but are not found persuasive.

Applicant asserts that the amendment to the newly submitted claims obviates this rejection. This is not persuasive. New claims 167, 169, 173-175, 179-180, 186, 188, 193, 195, and 198-199 do not recite functional language, and therefore do not comply

the written description requirement. An amendment to insert functional language would obviate the rejection.

Claims 170-172, 176-178, 181-184, 187, 189-192, and 200-203 are broadly drawn to an isolated polynucleotide comprising SEQ ID NO: 5, and polynucleotides encoding a polypeptide comprising SEQ ID NO: 4 or the UDP-glucose binding domain of SEQ ID NO: 5, a vector, a transgenic plant/cell comprising said polynucleotide. The claims are also drawn to a method of producing transgenic plant cell expressing an exogenous polynucleotide encoding a polypeptide consisting essentially a UDP-glucose binding domain of a cellulose synthase from any source including UDP-glucose binding domain from a Populus and Arabidopsis cellulose synthase.

The claims do not meet the current written description requirements for the following reasons: firstly, SEQ ID NO: 5 do not possess an open reading frame encoding a full-length polypeptide, and therefore reads on fusion genes, cDNAs, and constructs having SEQ ID NO: 5 in common, which Applicant was not in possession at the time the application was filed. In addition, since SEQ ID NO: 5 appears to be a partial gene, it is unclear if it encodes a functional polypeptide. Secondly, the specification only describes the UDP-glucose binding domain of SEQ ID NO: 1 encoding SEQ ID NO: 2 that is capable of cellulose synthase activity, and therefore a representative number of polynucleotides encoding a polypeptide consisting essentially a UDP-glucose binding domain and having cellulose synthase activity has not been described. Thirdly, the state of the prior art as evidenced by Applicant's specification (page 14, lines 5-7) is that UDP-glucose binding domains are non-functional when

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isolated from other portions of the protein. Therefore, since Applicant has not described the polynucleotides as broadly claimed, vectors, plants plant cells/seed comprising the polynucleotide and methods that employ the polynucleotide are similarly not described.

University of California v. Eli Lilly and Co. 43 USPQ2d 1398 (Fed. Cir. 1997)

states "A description of a genus of cDNA may be achieved by means of a recitation of a representative number of cDNAs, defined by nucleotide sequence, falling within the scope of the genus or of a recitation of structural features common to members of the genus, which features constitute a substantial portion of the genus. See also where the court teaches that the disclosure of a process for obtaining cDNA from a particular organism and the description of the encoded protein fail to provide an adequate written description of the actual cDNA from the organism which would encode the protein from that organism, despite the disclosure of a cDNA encoding that protein from another organism.

Therefore, weighing all factors above and in the last Office action, the claimed invention does not meet the current written description requirements. See, also Written description Examination Guidelines published in Federal Registry/Vol. 66, No.4/Friday, January 5, 2001/Notices).

Remarks

The nucleotide sequence of SEQ ID NO: 1 and 4 and nucleotide sequences encoding SEQ ID NO: 2 and 5 are deemed free of the prior art.

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Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Medina A. Ibrahim whose telephone number is (571) 272-0797. The Examiner can normally be reached Monday -Thursday from 8:00AM to 5:30PM and every other Friday from 9:00AM to 5:00 PM . Before and after final responses should be directed to fax nos. (703) 872-9306 and (703) 872-9307, respectively.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Dr. Amy Nelson, can be reached at (571) 272-0804.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

6/14/04
Mai

A handwritten signature in black ink, appearing to read 'Medina A. Ibrahim', with a long horizontal flourish extending to the right.